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EXAMINER	
AGHDAM, FRESHTEH N	
ART UNIT	**PAPER NUMBER**
2631	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/989,100	SIADAT ET AL.	
	Examiner	Art Unit	
	Freshteh N. Aghdam	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see pages 1 and 2, filed 5/16/2005, with respect to the rejection(s) of claim(s) 1-29 under Kubo, Yamano, and Fawal have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kubo, Fawal, and Yamano.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (US 4896349) (hereafter referred to as Kubo), and further in view of Fawal et al (US 6,452,938) (hereafter referred to as Fawal).

As to claim 1, Kubo teaches a communication circuit comprising: A first transceiver circuit (column 4, line 31 - column 7, line 10; figure 2, 8, 9, 12, 13); a second transceiver circuit (figure 2, 10, 11 , 14, 15); an integrated transformer (figure 2, 25) having a single core (figure 2), an input coil (figure 2, 25a), a first output coil (figure 2, 25b), and a second output coil (figure 2, 25c); wherein the

input coil is coupled to a signal source (figure 2, 21), the first output coil is coupled to the first transceiver circuit (figure 2, 8, 9, 12, 13), and the second output coil is coupled to the second transceiver circuit (figure 2, 10, 11 , 14, 15). The first and second transceiver circuits comprise, respectively: a communication apparatus, and a computer or television, a communication apparatus, and a sensor or meter. These transceiver circuits are capable or transmitting and receiving data. Kubo is silent about the transformer is an integrated transformer. One of ordinary skill in the art would clearly recognize that the integrated transformers are well known in the art as evidenced by Fawal (column 10, line 51; figure 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fawal with Kubo in order to simplify the circuit and eliminates the need for a separate transformer and cables associated for connecting the transformer.

As to claim 5, Kubo teaches a single core (figure 2, 25), wherein the single core is configured to operate in a plurality of frequency ranges (column 2, lines 19-33).

Claims 2-4, 6-8, and 9-29, rejected under 35 U.S.C. 1O3(a) as being unpatentable over Kubo and Fawal, further in view of Yamano et al. (US 6597768) (hereafter referred to as Yamano).

As to claim 2, Kubo teaches a transformer communication circuit comprising: an input coil coupled to a signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, wherein the single core is configured to operate in a plurality of frequency ranges. Kubo teaches

using a pair of wires (Kubo, figure 2,17) to transmit data at a lower frequency band, and a coaxial cable for data at higher frequency band. Kubo does not teach the transformer is an integrated transformer and the pair of wires coupled to a first transceiver circuit includes an asymmetrical digital subscriber line (ADSL) codec. One of ordinary skill in the art would clearly recognize that the integrated transformers are well known in the art as evidenced by Fawal (column 10, line 51; figure 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fawal with Kubo in order to simplify the circuit and eliminates the need for a separate transformer and cables associated for connecting the transformer. Yamano teaches a transformer circuit, coupled to a codec, where the codec may be a DSL modem (Yamano, column 1, lines 53-56, column 5 lines 1 1-17 and 57-64, figure Ie, figure 4., figure 7, 136). It is well known in the art a first transceiver circuit include an ADSL codec, because it is well known in the art that ADSL is a fast communications protocol, allowing for faster transmission of data on existing twisted wire phone lines. Therefore, it would be obvious to one of ordinary skill in the art that the first transceiver as taught by Kubo, be modified to include an ADSL codec, in order to increase the rate of data transmission.

As to claims 3 and 4, Kubo teaches a transformer communication circuit comprising: an input coil coupled to a signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, wherein the single core is configured to operate in a plurality of frequency ranges. Kubo teaches using a coaxial cable (Kubo, figure 2, 16) to transmit data at a higher frequency band, using more complex multiplexed transmissions, to transmit data at a higher

bandwidth. Kubo does not teach the transformer is an integrated circuit (i.e. transformer). Kubo does not teach the coaxial cable coupled to a second transceiver circuit includes a local area network (LAN) or a home LAN codec. One of ordinary skill in the art would clearly recognize that the integrated transformers are well known in the art as evidenced by Fawal (column 10, line 51; figure 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fawal with Kubo in order to simplify the circuit and eliminates the need for a separate transformer and cables associated for connecting the transformer. Yamano teaches a transformer circuit coupled to a codec, where the codec may be a LAN modem or a home phone line network alliance (HPNA) specifications for a LAN codec (Yamano, column 1 , lines 39-50., figure 1c and 1d, figure 11). It is well known in the art at the time of the invention that a second transceiver circuit include a LAN or a home LAN codec, because it is well known in the art that LAN and home LAN allow more data to be transmitted at higher frequencies and larger bandwidths in communication systems. Therefore, it would be obvious to one of ordinary skill in the art that the second transceiver as taught by Kubo and Fawal, be modified to include a LAN or a home LAN codec, in order to allow data to be transmitted at higher frequencies and larger bandwidths in communication systems.

As to claim 10, 13, 14, 17, 23, 24, 25, and 28, Kubo teaches a transformer system, for home or other use, comprising: an input coil coupled to a signal source circuit (a first circuit), an output coil coupled to a first transceiver circuit (a second circuit), and another output coil coupled to a second transceiver circuit (a third circuit), wherein the single core is configured to operate in a plurality of frequency ranges. Kubo

teaches the data is transmitted and received in this system via the transformer; via the magnetic path. Kubo teaches using a pair of wires (Kubo, figure 2, 17) to transmit data at a lower frequency bandwidth; and a coaxial cable (Kubo, figure 2, 16) to transmit data at a higher frequency band, using more complex multiplexed transmissions, to transmit data at a higher bandwidth. Kubo does not teach the input coil coupled to a signal source circuit, where the source is at least one of an ADSL or a LAN signal. Kubo does not teach the transformer is an integrated transformer. Kubo does not teach the pair of wires coupled to a first transceiver circuit, which includes an ADSL, configured to receive an ADSL signal. Kubo does not teach the coaxial cable coupled to a second transceiver circuit, which includes a LAN or home LAN codec, configured to receive a LAN or a home LAN signal. One of ordinary skill in the art would clearly recognize that the integrated circuits are well known in the art as evidenced by Fawal (column 10, line 51; figure 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fawal with Kubo in order to simplify the circuit and eliminates the need for a separate transformer and cables associated for connecting the transformer. Yamano teaches a transformer circuit, coupled to a codec, where the codec may be a DSL or a LAN codec, and hence an ADSL or a LAN signal may be received by the transceiver circuit (Yamano, column 1, lines 39-56., column 5, lines 1 1-1 7 and 57-64., figure lc, 1 d, and 1 e; figure 4., figure 7, 136, figure 11). It is well known in the art at the time of the invention that a first transceiver circuit, receive an ADSL signal, and a second transceiver circuit, receive a LAN signal, because it is well known in the art that ADSL is a fast communications protocol, allowing for faster transmission

of data on existing twisted wire phone lines, and that LAN and home LAN allow more data to be transmitted at higher frequencies and larger bandwidths. Therefore, it would be obvious to one of ordinary skill in the art that a first transceiver circuit, receive an ADSL signal, and a second transceiver circuit, receive a LAN signal, in the system taught by Kubo and Fawal, in order to in order to increase the rate of data transmission, and in order to allow data to be transmitted at higher frequencies and larger bandwidths.

As to claims 6, 11, 12, 20, 21, and 29, Kubo teaches a transformer communication circuit comprising: an input coil coupled to a signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, wherein the single core is configured to operate in a plurality of frequency ranges. Kubo teaches transmitting data at higher a lower frequency range but does not teach the specific ranges of a first frequency range of 20kHz to 1.1 MHz, typical for a wire pair, and a second frequency range of 4.5 MHZ to 10 MHz, typical for coaxial cable, Yamano teaches various frequency ranges (Yamano, column 4, lines 28-38., figure 2). These varying frequency ranges, ADSL from 26 kHz to 1 .1 MHz, and phoneline network from 4 MHZ to 10 MHz, are used in the system taught by Yamano, by implementing a specific filter and codec coupled to the transformer circuit (Yamano, column 5, lines 1 1-16,. column 7, lines 4-15; figures 4 and 11). It is well known in the art at the time of the invention that the single core is configured to operate in a plurality of frequency ranges, a first frequency range of 2OkHz to 1.1 MHz, and a second frequency range of 4.5 MHZ to 10 MHz, to allow transmission of data

having a wide range of frequencies (Kubo, column 2, lines 19-33). Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention, that the single core as is configured to operate in a plurality of frequency ranges, as taught by Kubo, and further that a first frequency range of ADSL from 2OkHz to 1.1 MHz, and a second frequency range of LAN from 4.5 MHZ to 10 MHz, to allow transmission of data having a wide range of frequencies. It is well known in the art at the time of the invention that ADSL is a fast communications protocol, allowing for faster transmission of data on existing twisted wire phone lines, and that LAN and home LAN allow more data to be transmitted at higher frequencies and larger bandwidths. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention, that the single core receive ADSL and LAN signals, in the system taught by Kubo and Fawal, in order to in order to increase the rate of data transmission, and in order allow data to be transmitted at higher frequencies and larger bandwidths.

As to claims 7, 8, 15, and 26, Kubo teaches a transformer communication circuit comprising: an input coil coupled to a signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, wherein the single core is configured to operate in a plurality of frequency ranges. Kubo does not teach the transformer is an integrated transformer. Kubo does not teach a bandpass filter is coupled between the second output coil and the second transceiver circuit, wherein the bandpass filter is configured to pass only frequencies between 4.5 MHZ to 10 MHz. One of ordinary skill in the art would clearly recognize that the integrated transformers are well known in the art as evidenced by Fawal (column 10,

line 51; figure 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fawal with Kubo in order to simplify the circuit and eliminates the need for a separate transformer and cables associated for connecting the transformer. Yamano teaches a bandpass filter coupled between an output coil and a transceiver circuit, such that only frequencies between 4.5 MHZ to 10 MHZ are passed (Yamano, column 7, lines 4-15, figure 11). It is well known in the art at the time of the invention that a bandpass filter coupled between an output coil and a transceiver circuit, such that only frequencies between 4.5 MHZ to 10 MHZ are passed, because it is well known in the art that a filter be used to select a certain frequency range. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention, that a bandpass filter be coupled between an output coil and a transceiver circuit, in the system taught by Kubo and Fawal, such that only frequencies between 4.5 MHZ to 10 MHZ are passed, in order to select these specific frequencies.

As to claim 16, Kubo teaches a transformer system comprising: an input coil coupled to a. signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, wherein the single core is configured to operate in a plurality of frequency ranges. The input coil, first and second output coil each includes a coil of wire, having a plurality of turns, surrounding the single core (Kubo, figure 2, 25, 25a, 25b, 25c).

As to claim 18, Kubo teaches a transformer circuit comprising: a single core, an input coil coupled to a signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, and the single

core is configured to operate in a plurality of frequency ranges, wherein the data is transmitted via the magnetic path (Kubo, figure 2). The transformer core provides a path from the transmitting to the receiving systems, the transformer core provides a path between the input coil, and the first and second receiving coils (Kubo, figure 2, 25, 25a, 25b, 25c).

As to claim 19, Kubo teaches a transformer circuit comprising: an input coil coupled to a signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, wherein the single core is configured to operate in a plurality of frequency ranges. Kubo does not teach the transformer is an integrated transformer. Kubo does not teach a means for receiving an input signal includes a RJ11 connector. One of ordinary skill in the art would clearly recognize that the integrated transformers are well known in the art as evidenced by Fawal (column 10, line 51; figure 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fawal with Kubo in order to simplify the circuit and eliminates the need for a separate transformer and cables associated for connecting the transformer. Yamano teaches a means for receiving ah input signal includes a RJ11 connector (Yamano, column 6, lines 29-35). It is well known in the art at the time of the invention that a means for receiving an input signal includes a RJ11 connector, because it is well known in the art that a connector be used for receiving an input signal in a transformer system. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention, that a RJ11 connector be used, in the system taught by Kubo and Fawal, in order to receive an input signal.

As to claim 22, Kubo teaches a transformer circuit comprising an input coil coupled to a signal source, a first output coil coupled to a first transceiver circuit, and a second output coil coupled to a second transceiver circuit, wherein the single core is configured to operate in a plurality of frequency ranges. Kubo teaches a means for receiving a signal includes a coil of wire having a plurality of turns (Kubo, figure 2, 25). As applied to base claim 17 above, Yamano teaches receiving a signal where the signal may be either an ADSL or a LAN signal, in the system taught by Kubo and Fawal.

As to claims 9 and 27, Fawal teaches a transformer coupled to a filter, disposed on a substrate (Fawal, column 11, line 57- column 12, line 2., figure 10). It is well known in the art at the time of the invention that a substrate be used, because it is well known in the art that a substrate be used to dispose various components thereon, in order to minimize space and cost of components. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention, that a transformer and a bandpass filter be disposed on a substrate, in the system taught by Kubo, such that minimal space and cost be used for these components.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam

September 13, 2005

KEVIN BURD
PRIMARY EXAMINER